

How can we meet her expectations?

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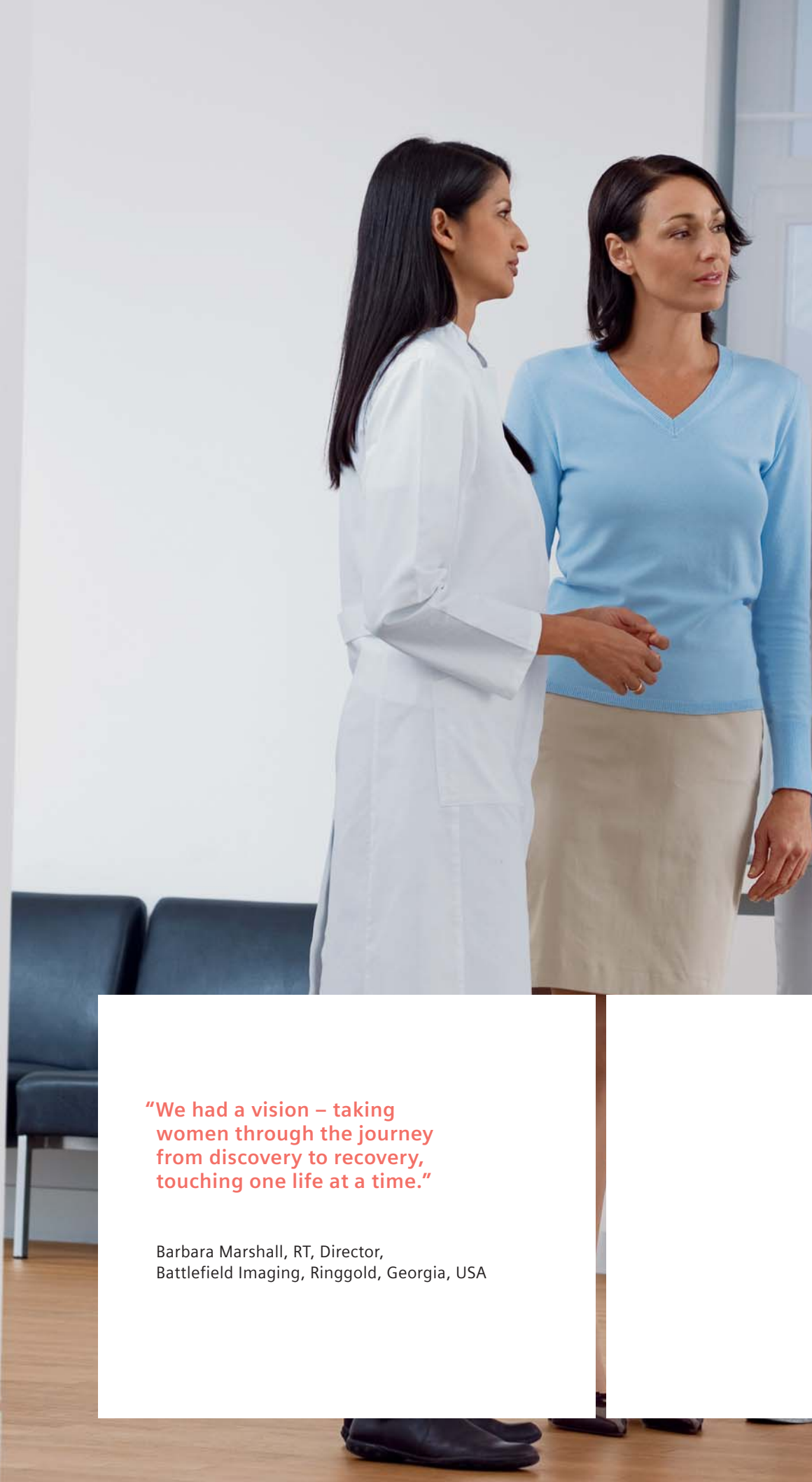


## Breast Care Solutions

Answers for life.

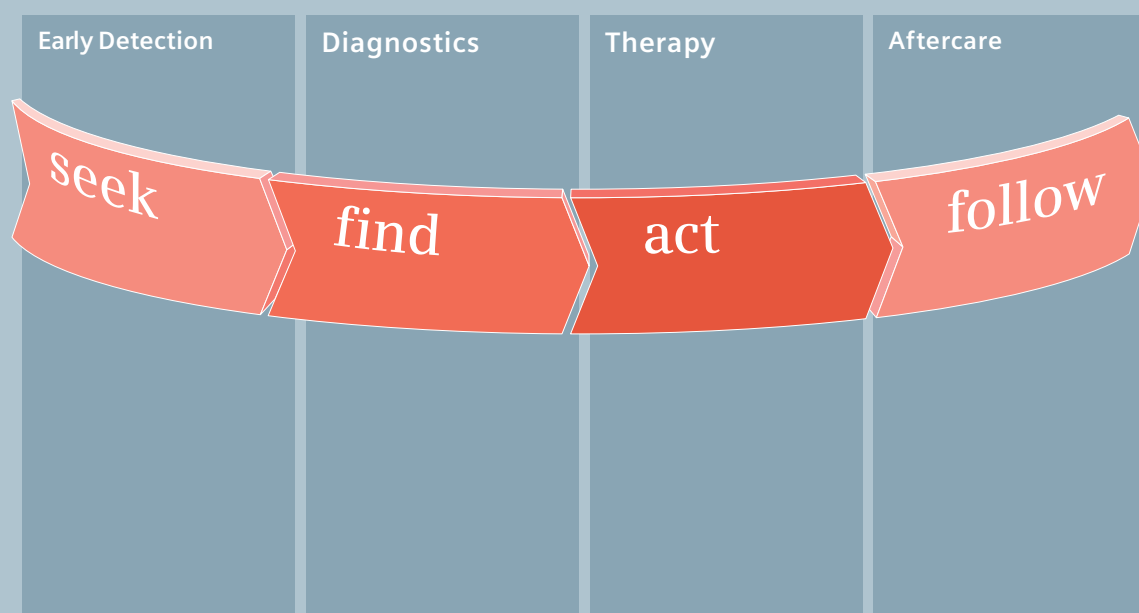
**SIEMENS**

Innovative Breast Care Solutions. For women. For health. For life.



**“We had a vision – taking women through the journey from discovery to recovery, touching one life at a time.”**

Barbara Marshall, RT, Director,  
Battlefield Imaging, Ringgold, Georgia, USA



**For women. For health. For life. Breast Care Solutions from Siemens.** Siemens' comprehensive solutions follow the complete continuum of breast care – from screening to diagnosis, therapy, and aftercare. And our solutions in healthcare IT support the exchange of data for making informed decisions.

#### A partner you can count on

To compete in today's changing and challenging world of breast cancer care, you need a partner who helps you meet your strategic and metric goals. We are at your side – along the whole workflow. Enabling you to do more in breast care. Because we know that while you have to offer the highest possible level of patient care, you also have to face the challenge of cost efficiency. That's why we have created our solutions with your patients in mind and took economic and operational requirements into account as well. Moreover, Siemens is your partner throughout the entire life cycle of your systems. We support you with innovative healthcare IT solutions, remote system monitoring and proactive maintenance services as well as hands-on trainings and further education – and much more.

#### Together we rethink – Healthcare Consulting

Linking strategy, processes, and technology is the greatest challenge faced by healthcare providers today. Our team of consultants, comprised of healthcare professionals, medical technology engineers, medical IT specialists, business management experts, and healthcare economists, will help you see and build these links and achieve measurable results. Our solutions are scalable and projects range in size and complexity from facilitating a reorganization along a specific clinical service line, to managing your equipment, and even to building an entire breast care center from the ground up.

Together with you, we generate an accurate understanding of the current situation and decide on an effective action plan based upon best-practice standards.

#### Innovating every step of your workflow

Setting trends. Upholding unparalleled quality. And providing state-of-the-art technology. These are values Siemens is known for. Backed by decades of experience, our solutions help you offer the best possible care for your patients. Every step of the way. Because our systems come in a friendly design, your patients will be more relaxed during examination. Because our systems are easy-to-use, you and your patients will benefit from shorter examination times. Because our systems provide excellent image quality, you will obtain quicker and more confident results. And with our innovative IT solutions, you are able to integrate your day for a smoother workflow. We support you in facing the challenges of today's healthcare. And help you stay competitive tomorrow.

#### Integrating your workflow for increased efficiency and patient care

A seamless integration of your medical equipment throughout your clinical institution as well as with referring physicians and other medical experts enables a fast and smooth exchange of important patient information – and, most importantly, informed and confident diagnostic and therapeutic decisions.

*syngo* MammoReport, our dedicated workstation for breast image reading and reporting, connects flexibly with your radiography information system (RIS) – and even with multiple RIS systems simultaneously. The new Workflow Engine automatically distributes all relevant breast images from multiple modalities – even prior images – to the *syngo* MammoReport workstation(s) of your choice.

The Siemens' RIS solution offers an integrated solution for managing breast care patients and all necessary follow-up. Supporting the ACR BI-RADS®, this module provides you with an easy way to generate statistical reports to meet the MQSA and ACR requirements. In addition, you can ensure timely communication with patients by tracking alternate patient addresses.

The system enables you to capture a patient's history electronically. Extensive information is captured on the patient's breast and cancer history, and includes a markable breast diagram to indicate the location of any palpable findings. Because previous histories are stored, you can do a longitudinal evaluation of the patient.

#### Service and life-cycle value

Performance, productivity, patient satisfaction: You want to get the most out of your investment over its entire life cycle. That's our goal too. That's why we offer our customer care program called Life, based on three decisive factors: Skills – with

EDUCATION Services we keep your knowledge up to date. Productivity – with UPTIME Services we optimize the availability of your systems. Technology – with UPGRADE Services we keep your system's performance at the cutting edge – both now and in the future. In addition, our Siemens Remote Service (SRS) is the efficient and comprehensive infrastructure for the complete spectrum of medical equipment-related remote services. Services that formerly required onsite visits are now available via data transfer. This includes rapid error identification as well as immediate remote repair. But that's not all. By proactively monitoring your systems, we can detect parameter deviations before problems occur. We take care of your system, because you have something more important to take care of – your patients.

For more detailed information on our comprehensive range of Breast Care Solutions, please visit [www.siemens.com/breastcare](http://www.siemens.com/breastcare)



## Breast Care Solutions For women. For health. For life.

As your partner in patient care, Siemens' comprehensive approach to women's health is helping to improve the standard of healthcare worldwide – helping detect, diagnose, and treat disease earlier, faster, and with greater precision. If there is one thing we in the healthcare field have learned, it's that every breast cancer patient is different, and, for that reason, differing imaging modalities, laboratory diagnostics, and therapy systems may help you to better detect, track, and treat an individual's disease. With that in mind, Siemens offers a range of breast care solutions, all designed to help you find the answers you seek, take the best possible course of action, and, ultimately, follow your patient through to recovery.



# Detecting the signs of breast cancer – early

Early detection. As clinicians, you know early detection offers your breast cancer patients the best chance of cure. Yet, not every patient case presents the same way. In order to take personalized medicine to the next level, you need accurate, detailed clinical information –the kind of information that is making a difference in the lives of patients around the world. Siemens Breast Care Solutions offer that level of information. From general population screening to the challenges of women with dense breasts, implants or a high genetic risk. Siemens solutions provide you with the clinical confidence you need to detect and treat disease – as early as possible.

## Early Detection



seek

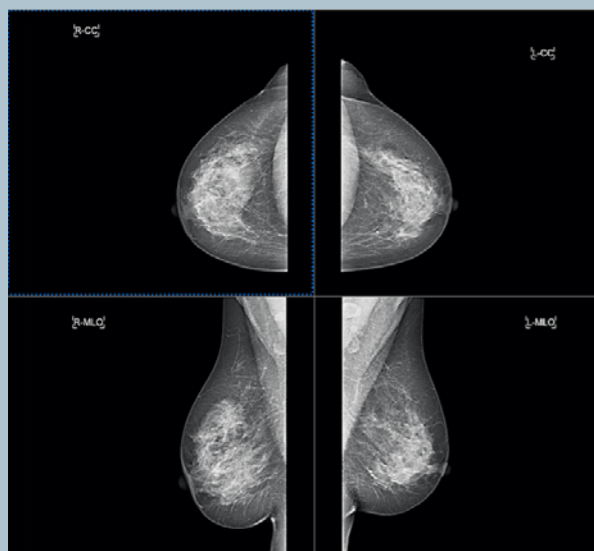
**Seek.** Whatever the individual situation, our innovations make screening and early diagnosis more reliable, efficient, and comfortable than ever before – enabling early and therefore more effective therapeutic intervention.

**“MAMMOMAT Inspiration works fast, it is more ergonomical, and radiographers like it. The time between exposures is less than 27 seconds, and we are able to schedule 12 to 15\* patients per hour, which is high throughput.”**

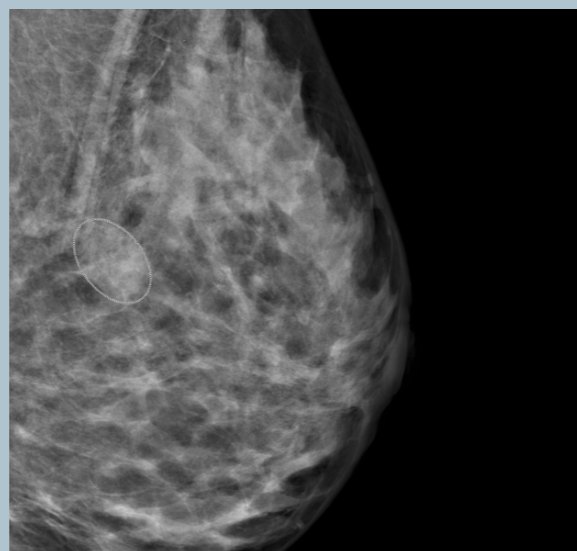
Ilse Vejborg, MD, Chief Physician of the Mammography Screening Program, Rigshospitalet, Copenhagen, Denmark

**“Using syngo MammoCAD is really helpful going through the 40-60 mammograms and screenings I review every morning. I used to review all the possibilities to find even smaller lesions. The second reader tool is beneficial and helps me with my second review.”**

Karsten Ridder, MD, Radiological Group Practice, Outpatient Clinic Professor Dr. Uhlenbrock and Partners, Diagnostic Breast Center, St. Josefs-Hospital, Dortmund-Hoerde, Germany



One click to image: streamlined workflow in mammography screening with MAMMOMAT Inspiration<sup>1</sup>



syngo MammCAD marking a suspicious lesion for further review



ACUSON S2000 Automated Breast Volume Scanner (ABVS): The Coronal view (left) offers a 3D visualization of the breast from the nipple to the chest wall, not possible with conventional, hand-held ultrasound. Clearly defined cysts in the volume dataset.



syngo VIEWS: image showing a left sagittal breast and the ductal structure with ductal carcinoma in situ pattern along the duct<sup>2</sup>

### Proven efficiency for routine screening – with Mammography

Many women are anxious about having a mammogram. This is why it is a primary objective to make mammography screenings more comfortable by: slowing down the speed of the compression plate and automatically stopping it at the point of optimal compression for maximum image quality; offering the lowest possible dose of radiation, while providing excellent image quality; reducing waiting times for your patients before and during an examination thanks to an efficient workflow; and making patients feel more comfortable with an appealing system design. In short: patient comfort may be increased with a solution like our latest **MAMMOMAT Inspiration** – offering functions such as Opdose®, SoftSpeed, Opcomp® or a direct-to-digital aSe detector. The MoodLight panel\* can change color thanks to built-in LED diodes, starting a new era of mammography systems with a patient-friendly design. And to reach women in rural regions with high-quality mammography screenings, Siemens relies on mobility and developed the **Mammo-Trailer**, which accommodates a whole mammography practice on wheels. This means comfortable surroundings, quick and mobile exams not far from home.

### Reliable detection of abnormalities – with CAD

In the process of image interpretation, it is paramount to detect even the most subtle lesions, including clustered microcalcifications, spiculated and non-spiculated masses as well as architectural distortions. **Computer-aided detection (CAD)** is a widely accepted clinical tool serving as a “second reader,” assisting clinicians by drawing their attention to suspicious areas in mammograms that require further review. With its ever-increasing accuracy, CAD has become an integral part of the digital mammography workflow, assisting you in the detection of cancer in its earliest and most easily treatable stage. And with the newest version of syngo MammCAD\*\*, up to 40 percent\*\*\* of normal cases show no false positive CAD marks, saving the clinician valuable interpretation time during the second read phase.

In combination with the syngo MammoReport, you will benefit from additional optional syngo MammCAD features including: breast density in the MammoBrowser; customized display of CAD markers; additional CAD information that provides the number of calcifications in a cluster; and a corridor of interest for the identification of marked lesions in a second view using CAD findings.

\* Option

\*\* Not available for sale in the U.S

\*\*\* Results may vary. Data on file.

### Improved analysis of dense breast tissue – with Ultrasound

Another challenge in the early detection of breast cancer is the imaging of dense breast tissue. According to the New England Journal of Medicine, women with dense breasts have an increased risk for breast cancer. Using ultrasound as an adjunct to mammography may increase the detection of abnormalities that may not have been visualized using other diagnostic procedures. Unlike the conventional, hand-held ultrasound acquisition technique, where the user moves a transducer over the breast, clinicians can now utilize an automated, single-sweep volume acquisition technique with the **ACUSON S2000 Automated Breast Volume Scanner (ABVS)** that produces standardized, reproducible ultrasound volumes for improved diagnostic confidence, especially for women with dense breast tissue. The system also features the intuitive, anatomical coronal plane, not available with conventional ultrasound. This view provides a more understandable representation of the global anatomy and architecture of the breast. In addition, **Advanced SieClear™ spatial compounding** with Dynamic TCE™ tissue contrast enhancement technology improves the detection sensitivity of ultrasound.

### Clarification of eventualities – with Magnetic Resonance

There are more patients with screening or early diagnosis challenges such as patients with breast implants and patients who are considered high-risk for breast cancer based on their genetic predispositions. In such cases, a solution is needed that provides high accuracy in differentiating soft tissues; a solution that can also be used for biopsies, and that supports real-time analysis data as well as interventional procedure planning. All the magnetic resonance systems from our **MAGNETOM®** family, equipped with our **syngo VIEWS** (Volume Imaging with Enhanced Water Signal) and powered by **Tim®** (Total imaging matrix), offer that – and much more, such as pristine image quality for excellent imaging and increased diagnostic confidence.

<sup>1</sup> Courtesy of Prof. Dr. Uhlenbrock & Partner, Dortmund, Germany

<sup>2</sup> Courtesy of Cardinal MRI Center San Juan, Manila, Philippines



Seek

# Diagnosing disease patterns – precisely

What do you need to make a precise diagnosis? The best possible information delivered flexibly. If, after an initial exam, abnormalities, lesions or even a tumor is found, your patient will need further evaluation. The quality of the anatomical and functional information you obtain at this point can play a major role in your evaluation and characterization of the disease, and thus, how you recommend treating it. Siemens full line of imaging modalities – mammography, ultrasound, molecular imaging, magnetic resonance, and computed tomography – is the key to unlocking the answers you need, and thus recommending the best possible care for your patients.

## Diagnostics

find

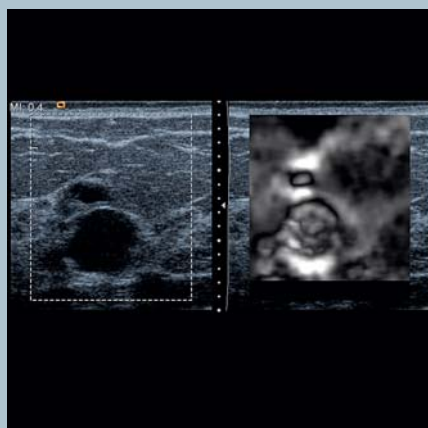
**Find.** Siemens Breast Care Solutions provide a broad basis for reliable decision-making. With our complete portfolio of imaging modalities and clinical procedures, abnormalities can be quickly and easily detected – even difficult-to-define disease patterns.

**“What’s novel about Symbia TruePoint SPECT•CT is that you perform two exams in the same sitting – we can acquire the CT scan right after the SPECT and fuse the image. The result is more precise localization of the node. Here, we call it ‘SPECT-ACULAR-CT.’”**

Homer Macapinlac, MD, Professor and Chairman of Nuclear Imaging, MD Anderson Cancer Center, Houston, Texas, USA

**“Initial research in the area indicates that elasticity technology has high specificity for the characterization of breast lesions. The technique is a software modification of a routine ultrasound exam, yet with no noticeable difference to the patient, while still offering diagnostic advantages to both the physician and the patient.”**

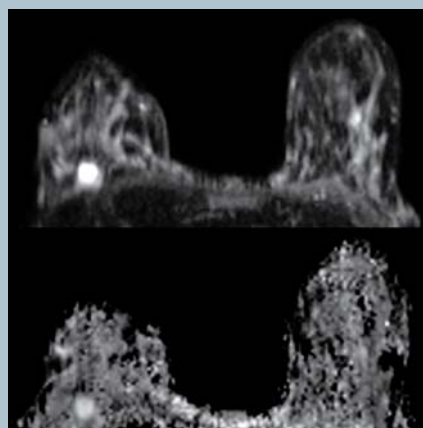
Richard G. Barr, MD, Professor of Radiology, Northeastern Ohio University College of Medicine, Youngstown, Ohio, USA



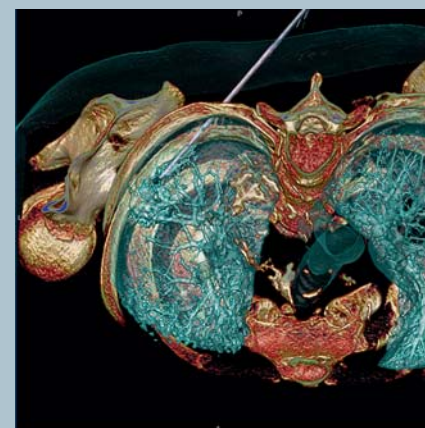
Live dual image: eSie touch elasticity imaging provides additional qualitative information by demonstrating typical characteristics of cysts



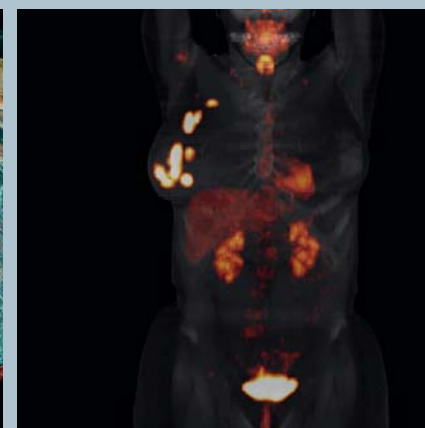
Patient with a 2.8 cm, grade 3, invasive ductal carcinoma in the right breast, imaged with Breast Tomosynthesis (BT)<sup>1</sup>



syngo REVEAL – increased specificity for breast lesions, for differentiation of benign versus malignant lesion/tissue.<sup>2</sup>



CT-guided intervention for a metastatic lung lesion



<sup>18</sup>F-FDG PET•CT shows a hypermetabolic primary breast tumor with axillary metastases<sup>3</sup>

<sup>1</sup> Courtesy of University Hospital, Malmö, Sweden  
<sup>2</sup> Courtesy of Centre IRM Ville Marie, Montreal, Canada  
<sup>3</sup> Courtesy of the Beijing Hospital, Beijing, China

\* Check the current regulation for the country in which you are using the technology for contrast agent clearance

### Improved detection sensitivity and characterization – with Ultrasound

Ultrasound is set to increase its role in the diagnostic process and become a more integral part of the breast lesion imaging workflow. Innovative technologies and applications will help to improve detection sensitivity and assessment of lesions, reducing overall patient discomfort and stress as well as increasing exam efficiency. New diagnostic capabilities have the potential to reduce unnecessary breast biopsies, providing greater insight into pathologies and making ultrasound exams more reproducible and consistent.

**Advanced SieClear spatial compounding** with Dynamic TCE tissue contrast enhancement technology, **Fatty Tissue Imaging (FTI)** and high frequency transducer technology enhance detection sensitivity. Increased sensitivity and specificity in characterizing lesions can be achieved with **Cadence™ contrast pulse sequencing technology (CPS)\*** and **eSie Touch™ elasticity imaging**. In particular eSie Touch elasticity imaging, which calculates and displays relative stiffness of tissue, is a promising new method with the potential to eliminate unnecessary breast biopsies. Finally, when it comes to workflow improvements in breast ultrasound imaging, automated applications such as the automated acquisition of volumes of the breast with the **ACUSON S2000™ Automated Breast Volume Scanner (ABVS)** and **Native TEQ™ dynamic tissue equalization** technology will help to increase patient outcomes.

### Exact localization – with Mammography

You may choose to be able to perform diagnostic mammography and biopsies with one platform. For example with MAMMOMAT Inspiration which offers a

stereotactic biopsy option. Stereotactic biopsy with MAMMOMAT Inspiration represents a highly integrated biopsy solution with a small foot print. The workflow is automated to a high degree and a great number of intelligent details reduce the work steps considerably. The biopsy images are acquired with the same FFDM detector as screening and diagnostic images, and are also processed with **OpView 2**.

Or you may decide on a biopsy solution that places the patient in the more relaxing prone position. With our biopsy system **MammoTest™**, procedures are performed out of patients' view. At the same time, you can maintain eye contact with your patients and have full patient and lesion access, thanks to MammoTest's 360° range of gantry movement.

### Reduced tissue overlap – with 3D Tomosynthesis

Tissue overlap is a limitation of both screen/film and digital mammography. You can eliminate this limitation with **Breast Tomosynthesis**: Several views of the breast are acquired from different viewing angles and the slice images are reconstructed into a 3D volume set, thus providing better specificity and sensitivity. The benefit of Breast Tomosynthesis for women is very clear: a faster diagnosis.

### Excellent evaluation of malignant patterns – with Magnetic Resonance

Magnetic resonance has become an integral part of breast cancer care, particularly for patients with dense breasts or breast implants. This is why we have complemented our MAGNETOM family with a dedicated MR breast scanner: **MAGNETOM Espree – Pink**, the next generation of breast MRI. Whether for diagnostics, during therapy or follow-up, the new system

offers unmatched patient comfort with Pink Comfort, unique applications with Pink Applications, and an innovative workflow with Pink Workflow. In short: **MAGNETOM Espree – Pink** combines the open-bore design of MAGNETOM Espree and a wide range of applications dedicated to improve diagnostic confidence with the Sentinelle Vanguard for Siemens solution that offers exceptional breast imaging and biopsy capabilities. What's more, the workplaces are equipped with a great number of computer-aided tools such as **syngo BreVis** for effective breast reading including BIRADS reporting and **syngo BreVis Biopsy** for interventional procedure planning.

### Accurate body tumor staging – with Computed Tomography

When staging a tumor, it is important to determine the presence of additional tumors and potential malignancies throughout the body. For this, it is important to have outstanding image quality with high spatial resolution and maximum coverage. **SOMATOM® Definition AS**, the world's first adaptive scanner, provides a new way to use single source CT. Imagine a CT scanner that truly adapts to your patients and your clinical questions – making it an expert in virtually any clinical field. Opening up new worlds of clinical and economic possibilities. Increasing the quality and efficiency of patient care. And thus making SOMATOM Definition AS the ideal scanner for everyday tumor staging.

Our software **syngo CT Oncology** provides diagnostic confidence for routine tumor staging – especially for the evaluation of tumors in typical locations such as in the lung, liver or in lymph nodes. Dedicated auto-pilots automate tumor segmentation and measurement, enabling robust calculation of the tumor size, including besides the standards RECIST (1.0) and

WHO the forward-looking volume evaluation of the tumor, and the total tumor burden. And by seamlessly integrating image fusion for hybrid imaging plus DICOM RT reporting, **syngo CT Oncology** offers a one-stop shop for high speed and maximum confidence in tumor staging as part of breast cancer care.

### Improved diagnostic accuracy – with Molecular Imaging

Particularly in dense breast tissue or implants, it is difficult to reliably stage primary tumors and differentiate benign from malignant breast lesions. Here, metabolic imaging with PET•CT is useful to characterize a breast mass. Our comprehensive suite of equipment for molecular imaging offers sophisticated clinical imaging as well as preclinical and biomarker solutions. Where other clinical procedures may have proven inconclusive, PET has been useful in depicting metastases. Hybrid systems such as our **Biograph™** for PET•CT combine anatomical information provided by CT with functional information and tumor metabolism obtained with PET, improving diagnostic confidence and therapeutic decision-making. Using the tracer <sup>18</sup>F-FDG, PET•CT enables accurate staging of breast carcinoma by localizing axillary lymph node and distant metastases. Technological advancements such as **HD•PET** and **ultraHD•PET** provide high resolution across the entire field of view and high lesion contrast for enhanced delineation of small lymph nodal and distant metastases – for diagnostic confidence and staging accuracy.

Our **Symbia® S** and **Symbia E** for SPECT, and the hybrid **Symbia TruePoint™ SPECT•CT** systems can improve the diagnosis and localization of skeletal metastases. Hybrid devices such as SPECT•CT and PET•CT can improve diagnostic accuracy and eliminate additional investigations, thereby reducing the time needed for diagnoses, which may speed up appropriate therapy.



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Find

# Treating patients – confidently

Your challenge? Identify the best course of treatment for your patient's survival. Oncology treatment can be as varied as the patients who suffer from the disease. Our scalable solutions for Adaptive Radiation Therapy (ART) – in combination with our broad platform of imaging modalities and innovations in the fields of tumor markers – provide the flexibility, precision, and confidence needed for successful treatment and patient monitoring. The anatomical and functional information captured, as well as unparalleled image quality, support you every step of the way.

Therapy

act

**Act.** Our innovative portfolio of products offers a leading-edge platform of technologies for complete therapy. We provide clinicians with the flexibility, precision, and confidence to successfully treat each disease pattern and improve patient outcomes.

**“With ARTISTE, you are able to set up the beam so that the heart and lungs are not in the radiation field. An advantage of ARTISTE is that it images in the axis of the beam, not perpendicular to the beam. The image quality is much better. This has really changed physician quality control.”**

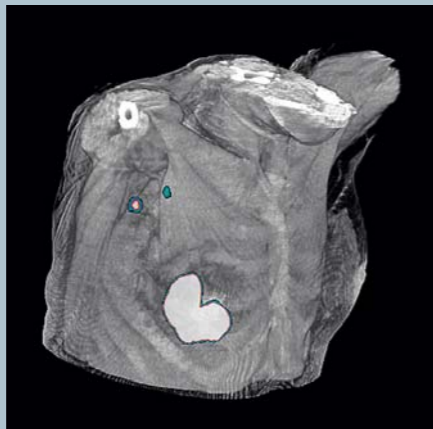
Philippe Lambin, MD, Head of Department of Radiation Oncology, MAASTRO Clinic, Maastricht, The Netherlands

**“syngo GRACE shows great promise as a way to differentiate between benign and malignant lesions, and to gauge the effect of chemotherapeutic agents in patients with locally advanced breast cancer.”**

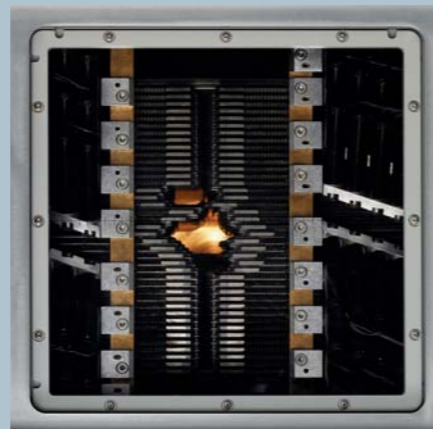
Dr. Mitsuhiro Tozaki, Director of Breast Center, Kameda Medical Center, Chiba, Japan



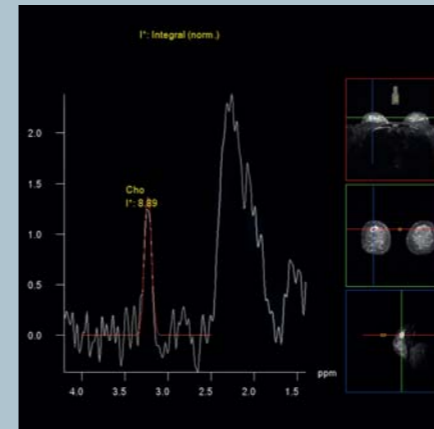
High frequency transducer technology provides excellent clarity in visualization and placement of this small needle to perform necessary biopsy



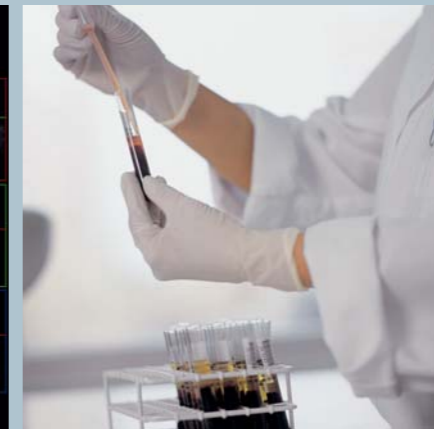
Lymphoscintigraphy performed with Symbia in a patient with primary breast carcinoma<sup>1</sup>



Providing accurate dose distribution: the 160 MLC™ Multileaf Collimator is a standard feature on ARTISTE



syngo GRACE breast spectroscopy including choline quantification



Serial serum measurements aid in patient management

### Clear visualization – with Ultrasound

Ultrasound plays an important role in the localization and guidance of needle and wire placements prior to surgery. Excellent visualization of the needle is achieved utilizing **2D beam steering** to position the beam perpendicularly to the needle shaft. **High frequency transducer technologies** along with **SieClear Advanced spatial compounding** deliver high-resolution images providing visualization of the smallest structures.

### Reliable identification of metastases – with Molecular Imaging

Information obtained with molecular imaging is critical for therapy planning, as the presence of metastases may result in a modification of the therapeutic decision. Combining advanced technologies of two imaging modalities, PET and CT, our **Biograph** system makes it possible to produce an image that reveals detailed anatomy and biological processes at the molecular level of internal organs and tissues from one single non-invasive diagnostic procedure – thus helping to identify distant metastases. In addition, PET•CT fused datasets provide important information for radiotherapy planning, since they provide more accurate delineation of viable tumors.

What's more, lymphoscintigraphy can be performed by our **Symbia** systems. **Symbia S** combines state-of-the-art SPECT image quality with unprecedented workflow automation and handles higher patient volume with ease. And our **Symbia TruePoint SPECT•CT** increases diagnostic confidence by providing exact localization of the sentinel node, due to the diagnostic CT component involved in the hybrid imaging study.

### Adaptive 3D CT Intervention Suite – with Computed Tomography

**SOMATOM Definition AS** puts you in full control in any plane with 3D-guided interventions. Giving you a more accurate overview of your needle position in 3D. And, with its in-room control it offers the freedom to manipulate the entire procedure with just the touch of a button – without ever leaving your patient's side, making both your routine and complex procedures easier and safer.

### Effective radiation therapy – with Oncology Care Solutions

When therapy begins, it is important to be able to choose the appropriate radiation therapy technique, easily adapt to anatomical changes and patient movements, and deliver treatments according to each patient's needs. Our scalable **ARTISTE™** Solution provides a comprehensive selection of image-guided and advanced treatment delivery tools for infinite flexibility and complete confidence. What's more, the ARTISTE Solution's

**Adaptive Targeting™** evaluation software offers the highest system precision: it determines the exact patient position and necessary adaptations by localizing the tumor and displaying it in 3D.

Thanks to the high-resolution 160 MLC™ Multileaf Collimator, you can deliver a very accurate radiation therapy: The collimator precisely conforms to the shape of the tumor and maximizes dosage to the target volume while minimizing dosage to the healthy surrounding tissue. In addition, our software application **syngo Suite for Oncology** offers comprehensive and role-based workflow solutions for each member of the clinical oncology team by enabling fully automated sharing, reviewing, and acquisition of data and images.

### Valuable monitoring of tumor development – with Magnetic Resonance

Monitoring the development of tumors and lesions is very important during breast cancer therapy. Our software solution **syngo VIEWS** can help provide ongoing anatomical and functional information about the lesion throughout the therapy process. **Tim** delivers accelerated acquisition speed – while still providing the high spatial resolution. In addition, **syngo GRACE**, our solution for quantitative MR breast spectroscopy, can provide quantified metabolic tissue information by utilizing choline as a biomarker. **syngo GRACE** provides essential information about the biochemical composition of breast lesions, and helps increase confidence in the assessment of therapy efficacy.

### Enhanced information – with Tumor Markers

**CEA, CA 15-3, BR 27.29, and Serum HER-2/neu** are tumor markers that can help clinicians manage breast cancer. CEA, CA 15-3, and BR 27.29 may be used for Stage II through Stage IV breast cancer, while Serum HER-2/neu may be used with Stage IV (metastatic) breast cancer. Preoperative levels may be taken to establish a baseline serum level. Subsequently, serum levels may be serially monitored – increasing levels may indicate progression, while decreasing levels may indicate response to treatment. Tumor markers should be used in conjunction with other clinical tools.

Each year 1.3 million women are diagnosed with breast cancer globally, and 25% of these cases are HER-2 positive. HER-2 positive breast cancer is an aggressive type of breast cancer that has been shown to be an indicator of poor prognosis, higher probability of recurrence and decreases overall survival. HER-2/neu is a biomarker for HER-2 positive breast cancer. Traditional HER-2/neu testing has been generally limited to tissue from primary breast cancer. It is used as a predictor of response to therapy but cannot monitor the real-time responses patients will go through during the clinical course of disease. The Siemens Serum HER-2/neu test is a simple blood test that can help manage the disease of metastatic breast cancer patients whose initial Serum HER-2/neu level is > 15 ng/mL.

<sup>1</sup> Courtesy of Dr. Shahid Mahmood, Radiology Clinic Parkway Hospitals, Singapore, Singapore



# Caring about your patients' future – reliably

Identifying changes in your patients' health after the completion of cancer treatment is vital to their ongoing care, and, should recurrence be detected, critical to beginning early cancer treatment. The reliable, detailed clarity of Siemens imaging solutions and the precision of our tumor markers provide you with the highest level of clinical confidence, thus enabling you to assuage patient anxiety and begin retreatment at the earliest stages possible. Improve your patient monitoring, increase patient comfort, and achieve unparalleled image quality with the full line of Siemens Breast Care Solutions.

## Aftercare



follow

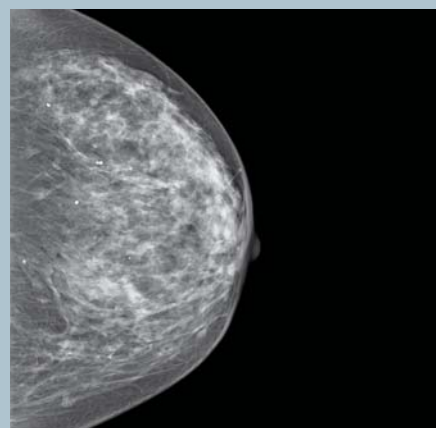
**Follow.** With our diverse imaging solutions and innovative methods, we support you in providing the best possible aftercare. Our comprehensive and caring view helps you improve the health perspectives of your patient.

**“The Adaptive Scanner, SOMATOM Definition AS, enables us to address any clinical question in any situation.”**

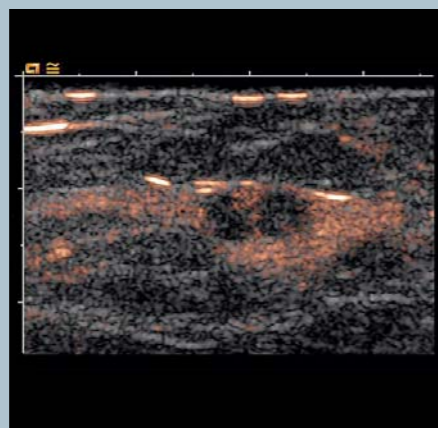
Joseph Schoepf, MD, Department of Radiology,  
Medical University of South Carolina, Charleston, USA

**“My first experiences with measuring Serum HER-2/neu for metastatic breast cancer showed that in many cases, after patients were given chemotherapy, if the treatment was working, serum levels would rapidly decrease in the first three to four weeks after treatment. We confirmed our serum readings with a CT scan.”**

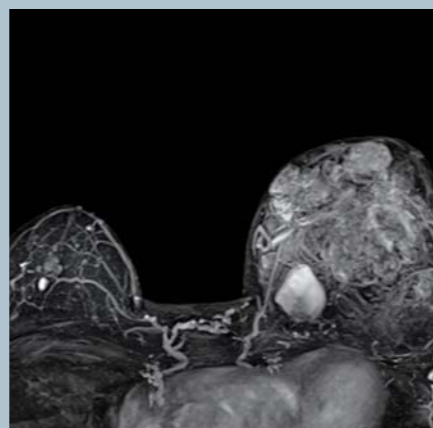
Professor Jean-Pierre Lotz, MD, Chief Medical Oncologist,  
Université Pierre et Marie Curie's Hôpital Tenon, Paris, France



MAMMOMAT Inspiration: small structures like microcalcifications are clearly depicted<sup>1</sup>



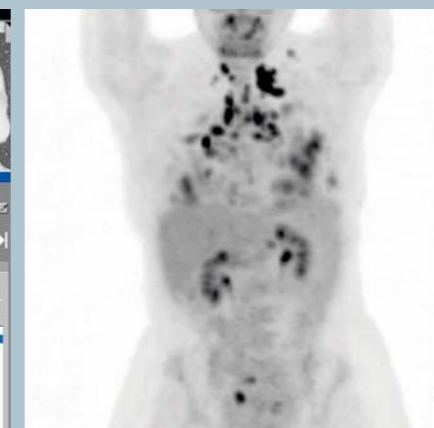
Cadence contrast pulse sequencing technology provides superb visualization of the perfusion in this complex breast mass



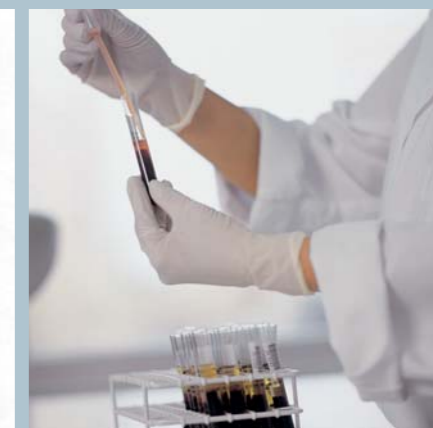
syngo VIEWS: cytosarcoma in the left breast



syngo CT Oncology: follow-up of metastatic lung lesion



PET: breast carcinoma distant metastases<sup>2</sup>



Serial serum measurements aid in patient management

### Diagnostic confidence combined with cost efficiency – with Mammography

Mammography is a common clinical solution for aftercare. Our **MAMMOMAT Inspiration** offers the lowest possible compression and an appealing design, increasing your patients' comfort for a more inviting examination. At the same time, you receive outstanding image quality depicting even the most subtle lesions at low dose. This all is possible thanks to our innovative functions such as SoftSpeed, Opcomp, and Opdose. In addition, the MAMMOMAT Inspiration is ready for future 3D Tomosynthesis\*.

### Improved patient monitoring – with Ultrasound

Ultrasound complements mammography as a standard clinical tool during aftercare, especially when monitoring women with breast cancer. **Cadence contrast pulse sequencing technology (CPS)\*\*** provides excellent visualization of the micro-vascularity of lesions in pre- and post-surgical follow-up care. Furthermore, the single-sweep, automated acquisition with the **ACUSON S2000ABVS Automated Breast Volume Scanner (ABVS)** enables you to acquire standardized and reproducible images of the breast – for improved confidence in patient monitoring. The complete ACUSON S2000ABVS solution integrates conventional ultrasound tools such as Color Doppler, biopsy capabilities, and eSie Touch elasticity imaging. In addition, volume reporting and exam review will be available off the system on a multimodality workstation to improve efficiency in aftercare. Semi-automated reporting and comprehensive BI-RADS® reporting capabilities further enhance the clinical workflow.

### Excellent diagnostic possibilities – with Magnetic Resonance

Whether fatty or dense breasts or implants – MR systems can help detect the most subtle lesions that might otherwise go unnoticed with other clinical procedures. A comprehensive portfolio of routine and advanced software applications especially for breast cancer care increase diagnostic confidence: Showing excellent fat suppression and providing 3D bilateral breast imaging in submillimeter range by stimulating the water spins, our **syngo VIEWS** (Volume Imaging with Enhanced Water Signal), powered by **Tim**, provides excellent follow-up possibilities. Physicians benefit from full coverage of both breasts to carefully monitor also the non-affected breast tissue over time and from excellent lateral coverage up to the axillary region. Fast imaging in excellent quality is delivered by **syngo VIEWS** in combination with **syngo GRAPPA**, our unique parallel imaging technique, powered by Tim. Due to their 3D isotropic voxels, both breasts can be viewed at the same time and images rotated in all directions for a more accurate diagnosis. Additionally, **syngo GRACE** is an ideal possibility to monitor the biochemical status of breast lesions after therapy.

\* Work-in-progress. Not commercially available.

\*\* Check the current regulation for the country in which you are using the technology for contrast agent clearance.

### Detailed anatomical and functional information – with CT and Molecular Imaging

Scanning for possible metastatic disease through-out the body plays an essential role in follow-up examinations as well. Combining our latest CT scanner **SOMATOM Definition AS** with **syngo CT Oncology**, physicians benefit from unparalleled image quality that depicts even the smallest anatomical abnormality. **syngo CT Oncology** makes follow-up examinations easier and more reliable. Findings in the base line examination can be propagated into the follow-up exam with one click. **syngo CT Oncology** automatically segments tumors and calculates the change in tumor volume. The automatic segmentation and propagation make results more independent from the individual reader. In addition, our latest PET•CT, the **Biograph mCT**, can combine critical functional information from FDG PET with premium CT images, which helps detect subtle local tumor recurrences and distant metastases. And recurring skeletal metastases can be detected and their progress sequentially evaluated using **SPECT** and **SPECT•CT**. Thus, our molecular imaging tools help clearly identify any recurrences as early as possible – with only one exam.

### Easy patient management and monitoring – with Tumor Markers

When used in conjunction with other clinical procedures, our in-vitro diagnostics solutions aid in the management of breast cancer patients. **CEA**, **CA 15-3**, and **BR 27.29** are useful tools for monitoring and detecting recurrences in previously treated Stage II or Stage III breast cancer patients. The **Serum HER-2/neu** test can be used in aftercare to monitor HER-2/neu levels in metastatic breast cancer.

<sup>1</sup> Courtesy of Prof. Dr. Uhlenbrock & Partner, Dortmund, Germany

<sup>2</sup> Courtesy of the University of Tennessee, Knoxville, Tennessee, USA



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